

REMARKS

The rejection of claims 1 to 3, 5, 11, 13, 15 to 32, 34 to 41 and 43 to 47 as anticipated by Aldrich (US 6,585,635) is traversed.

The claims are generally directed to a method and apparatus that infuses fluid through the catheter into the pericardial sac; constrains the heart by increasing a fluid pressure in the pericardial sac with the infused fluid, and reduces dilation of the heart by the constraint on the heart.

Aldrich describes pumping fluid in and out of pericardial space to assist beating of the heart. Aldrich teaches away from invention by teaching releasing pressure on the pericardial space during diastole to enable full relaxation of the heart. In particular, Aldrich states “[t]he minimum pressure during deflation may be set at a level near, above, or below the atmospheric pressure. In some cases, it may be desirable to provide a minimum pressure that is as low as possible (e.g., in a near vacuum state), for instance, to assist the ventricles of the heart to expand to their maximum extent in diastole.” [Aldrich, col. 4, lns. 47-52]. Because Aldrich teaches minimizing pressure to assist in the beating of a heart, Aldrich does not teach preventing expansion of the heart during diastole. Accordingly, Aldrich does not anticipate the rejected claims.

In addition, Aldrich does not teach sealing a puncture formed by the catheter extending through the wall of the pericardial sac, as required by claims 30 and 32; sealing a puncture formed by the catheter as required by claims 36, 37; and covering substantially the entire surface of the heart with fluid, as required by claim 38.

The rejection of claims 1 to 4, 8 to 11, 13, 15 to 28 and 36 to 48 as being anticipated by Snyders (USP 6,095,968) is traversed.

Snyders discloses a heart assist device that inserts a “viscous cardioplasty jacket” around the heart during an “open” heart surgical procedure or by an endoscopic procedure. Snyders, col. 2, ln. 55 to col. 3, ln. 23. Once installed around the heart, the jacket is filled with a fluid. Snyders, col. 3, lns. 27-54.

Snyders does not disclose or suggest inserting a catheter into the pericardial sac of the patient and infusing fluid through the catheter, as required by independent claims 1, 11, 15, 20, 36, 37, 38, 42, 45 and 46 or is in contact with the pericardial sac as required by claims 20, 27, 40 and 41.

The rejection of dependent claims 5 to 9 and 12 as being obvious over Snyders is traversed for the same reasons stated above for the patentability of independent claims 1 and 11.

In addition, claim 8 requires the infusion to continue until the infusion has reached a predetermined pressure level. Snyders does not teach reaching a predetermined pressure level when infusing a fluid. Similarly, claim 9 requires the infusion to increase the pressure in the pericardium to a pressure level of 5 to 10 mmHg. Snyders does not teach reaching the pressure level recited in claim 9 and it would be contrary to Snyders reach such a high pressure level. Snyders teaches infusing a small amount of fluid that will not increase the pressure in the pericardium to any significant effect.

The rejection of dependent claim 14 as being obvious over Snyders is traversed for the same reasons stated above for the patentability of independent claim 11.

All claims are in good condition for allowance. If any small matter remains outstanding, the Examiner is requested to telephone applicants' attorney. Prompt reconsideration and allowance of this application is requested.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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